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(54) A one piece mailer form and method of processing

(57) The mailer form has an envelope portion (62) integrated with a letterhead or insert portion to permit feeding through an imaging device such as a laser printer whereby both the letterhead portion and the envelope portion (62) can be imaged at the same time. The letterhead portion (61) can be imaged with information containing a name and address at the same time as the envelope portion (62) is addressed. The adhesive (73) on the flap (67) of the envelope is protected from the heat of a laser printer by being sandwiched between the flap (67) and the letterhead portion (61).

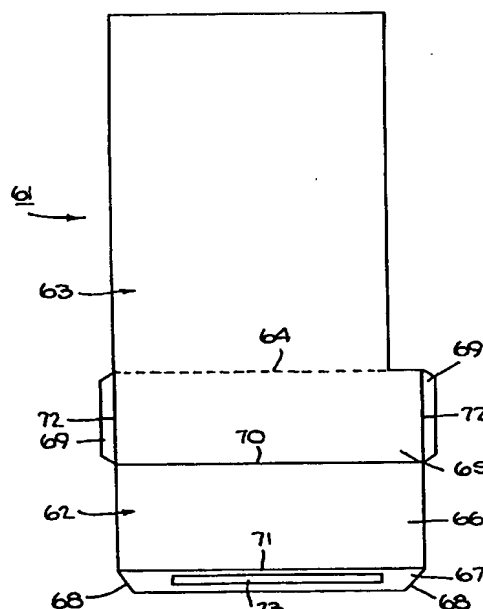


Fig. B

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Description

This invention relates to a one piece mailer form and to a method of processing a one piece mailer form.

As is known, various types of mailer constructions have been made for return mail purposes and for direct mail purposes.

For example, in the case of return mail constructions, multi-ply forms have been used which serve not only to mail the entire form to an addressee but also to provide a return mail envelope for the addressee to return information to the original sender.

Return mailers have also been known, for example, from U.S. Patents 4,668,211 and 4,706,878 which can be prepared for use in laser electronic printers. In such cases, a mailer blank has been formed with an outgoing envelope portion and various panels which can be folded over to form a mailer as well as a return mailer envelope. Such mailers have been constructed so that the forms can be fed through a laser printer to receive imaging.

It has also been known from U.S. Patent 2,152,135 to construct a single sheet of letter sized paper so that the sheet may be folded and used for a mailing envelope. Still other constructions have been known, for example from U.S. Patent 3,270,949, which provide a single sheet of paper which can be provided with printed information and which can be folded into a mailing piece and mailed in an envelope and subsequently unfolded and refolded to form a return mailer.

It is also known from U.S. Patent 4,951,864 to provide a one piece mailer which can be fed through a laser printer so as to be provided with variable information, such as address information, and thereafter folded for mailing purposes.

Mailer constructions have also been known which are made up in a continuous form assembly wherein each section of the assembly provides a form constituted by an envelope and a contiguous insert portion which can be separated from the envelope portion and subsequently inserted into the envelope for mailing purposes. In such cases, the envelope has been pre-printed with return addressee information while the insert portion has been pre-printed with other information.

It has also been known that form letters, or personalized letters, can be readily processed and imaged in laser printers and the like using personal computers. It is also known that, in order to address an envelope for such a letter, the envelope had to be inserted in a typewriter or inserted separately into a printer such as a dot matrix printer. Thus, where multiple letters are imaged with personalized information and separate multiple envelopes are addressed in a typewriter or otherwise, there is a risk that the correct letter would not be stuffed in the correct envelope.

U.S. Patent 4,784,317 describes a one piece mailer intended for processing in a laser printer in which a lower part forms an envelope and an upper part forms a letter which can be separated from the lower part. As described, this mailer is to be processed through a laser

printer or copier machine once so as to provide an address on the front of the envelope and text on the same side of the letter. However, one of the disadvantages of such a proposed structure is that an adhesive used to seal a flap to the back of the envelope is exposed to the laser printer or copier machine. Another disadvantage is that the letter portion is of the same width as the envelope portion so that it would be difficult to insert the letter into the envelope even if folded about a transverse fold line.

Accordingly, it is an object of the invention to provide a one piece mailer form forming an envelope portion and a letterhead or insert portion which can be personalized with respect to an outgoing addressee.

It is another object of the invention to provide a one piece mailer form which can be fed through a laser printer or the like and customized to an addressee.

It is also another object of the invention to provide a mailer form which permits imaging of a letter and addressing of an envelope in one pass through an imaging machine, such as a printer.

It is another object of the invention to allow a letterhead portion of a one piece mailer form to fit into an envelope portion of the form with a standard fold once the letterhead portion is separated from the form.

Briefly, the invention provides a one piece mailer form comprised of an envelope portion and a second separable portion which may form either a letterhead portion or an insert portion.

The envelope portion is constructed of a pair of parts which are disposed over each other and which are secured to each other in order to define an open pocket therebetween. In this respect, the two parts may be formed of a single sheet which is folded over to form the pocket or by two separate sheets which are secured to each other to form the pocket. In addition, the envelope portion includes a flap portion which extends from one of the two parts for folding over the other of the parts in order to close the pocket. A suitable adhesive is also provided on the flap portion for sealing purposes.

In one embodiment, the flap part extends from a part of the envelope portion which is to form the front of the envelope portion for receiving addressee information. In this embodiment, the adhesive is exposed. In such cases, the adhesive is of a type which is heat resistant and which provides lay flat characteristics, such as described in U.S. Patent 4,951,864, in order to be fed through a laser printer in an exposed manner without detrimental effect on the adhesive and, more particularly, the printer. In another embodiment, the flap portion may extend from one part in facing relation to the second part so as to be protected against the heat generated in a laser printer. In this case, any suitable type of adhesive may be used for securing purposes. That is, there may be no need to have a heat resistant adhesive on the flap portion.

The second portion of the mailer which extends from the envelope portion may be in the form of a blank letterhead to receive printed information thereon. In one embodiment, one side of this letterhead portion may be

provided with a preprinted logo, pre-printed sender information and the like. When the mailer is fed through a laser printer or other imaging means such as an ink jet printer, impact printer or other printing technology imaged information can be placed on the letterhead portion in a position rotated 90° relative to the envelope portion via a template, macro or the like in a word processor. In addition, the envelope portion is imaged by the printer with addressee information simultaneously in the same operation without need for a separate typewriter or a second pass through the imaging means.

The mailer is also provided with a line of weakening or the like between the two portions in order to permit separation of the two portions from each other. When separated, the second or letterhead portion can be folded and placed within the pocket of the envelope portion and mailed.

In another embodiment, one of the two parts forming the envelope portion may be provided with a pair of tab portions which are folded over along opposite sides of the part and secured to the other envelope part in order to define a full open pocket.

The invention also provides a method of processing a one piece mailer form having an envelope portion including two parts which define an open pocket, a flap portion extending from one of the parts with an adhesive thereon and a further second portion which extends from the envelope portion. In accordance with the method, the mailer form is fed through an imaging means such as a laser printer to apply printed information on at least one side of the second portion and a customized address on the envelope portion. Thereafter, this second portion is separated from the envelope portion, folded and then inserted into the pocket of the envelope portion for mailing purposes. The flap on the envelope portion can then be folded to close the pocket.

These and other objects and advantages of the invention will become more apparent from the following description taken in conjunction with the accompanying drawings wherein:

Fig. 1 illustrates a view of a one piece mailer constructed in accordance with the invention;
 Fig. 2 illustrates a reverse view of the mailer of Fig. 1;
 Fig. 3 illustrates a view of the mailer of Fig. 2 with information printed on a letterhead portion and a customized address on an envelope portion;
 Fig. 4 illustrates a view of a modified mailer constructed in accordance with the invention;
 Fig. 5 illustrates a reverse view of the mailer of Fig. 4;
 Fig. 6 illustrates a view of a further modified blank for constructing a mailer in accordance with the invention;
 Fig. 7 illustrates a perspective view of a modified mailer constructed in accordance with the invention;
 Fig. 8 illustrates a view of a further modified blank for constructing a mailer in accordance with the invention; and

Fig. 9 illustrates a view of the mailer blank of Fig. 8 in a folded condition for presentation through a laser printer in accordance with the invention.

Referring to Fig. 1, the mailer form 10 is comprised of an envelope portion 11 and a letterhead portion 12 which are connected together to form an integrated unit.

The envelope portion 11 has a front part 13 (see Fig. 2) for receiving addressee information and a back part 14 (see Fig. 1) disposed over the front part 13 to define an open pocket therewith. In addition, a suitable adhesive (not shown) is used to secure the two parts 13, 14 to each other. For example, the glue may be applied as lines of glue along two opposite sides of the parts 13, 14 or where the two parts 13, 14 are made of separate pieces, along three sides of the parts 13, 14.

The envelope portion 11 also has a flap part 15 extending from the front part 13 for folding over the back part 14 to close the pocket. As indicated, the flap part 15 may be provided with curved edges 16 which are formed by die cuts in the mailer form 13. The flap 15 is also provided with an adhesive 17 for securing the flap part 15 to the back part 14. In this respect, the adhesive 17 may be a heat resistant adhesive which is capable of being fed through a heat fusing stage of a laser printer or the like without detrimental effect to the adhesive or the printer. Such an adhesive may be as described in U.S. Patent 4,951,864 and is capable of resisting heat up to and in excess of 400°F while also providing lay flat characteristics.

The letterhead portion 12 extends from the flap part 15 of the envelope portion 11 and is sized to receive printed information thereon. A suitable line of weakening 18 is provided between the two portions 11, 12 to permit separation of the two portions 11, 12 from each other. As indicated in Fig. 2, one side or both sides of the letterhead portion may have a preprinted logo 19 thereon as well as conventional preprinted letterhead information.

The mailer form 10 is constructed of rectangular shape so that each portion 11, 12 has a width of 8.5 inches and an overall combined length of 11 inches. In this case, the back portion 14 may have a length of 3.5 inches while the letterhead portion has a length of 6.875 inches. This particularly allows the letterhead portion 12 to be separated from the envelope portion 11, folded and then inserted into the pocket of the envelope portion 11. Other suitable dimensions are also possible such as for A-4 paper.

The mailer 10 is constructed on a composite form so as to be fed through a laser printer or like equipment. In this respect, the envelope form 10 is to be fed into the laser printer in a direction axially or transversely of the two portions 11, 12. In addition, a word processor connected to the laser printer may be suitably programmed by software so that the information is imaged on the letterhead portion 12 in a direction rotated 90° relative to the envelope portion. Such an arrangement is shown in Fig. 3. At the same time, addressee information 20 can

be imaged within a predetermined block or area on the front part 13.

Referring to Fig. 2, the front part 13 is provided with a fold score or lines of weakening 21 along the flap part 15 in order to facilitate folding of the flap part 15 over the back part 14.

Referring to Fig. 4, the one piece mailer form 22 may be constructed in an alternative fashion for different purposes. For example, the mailer form 22 includes an envelope portion 23 similar to that described above as well as an insert portion 24. In this embodiment, the envelope portion 23 has a front part 25 (see Fig. 5), a back part 26 disposed over the front part 25 to define a pocket, a flap part 27 which extends from the front part 25 and which is foldable along a fold line 28 (see Fig. 5) as well as a strip of adhesive 29 for securing the flap part 27 to the back part 26.

The insert portion 24 extends from the flap part 27 of the envelope portion 23 while a line of weakening 30 provides for separation of the two portions 23, 24 from each other. In addition, the insert portion 24 has a fold score or line of weakening 31 extending perpendicular to the envelope portion 23, i.e. perpendicular to the line of weakening 30. As indicated, the fold line 31 separates two parts 33, 34 of the insert portion 24 from each other. In addition, a tear-off portion 35 extends from the flap part 27 in parallel to the insert portion 24 while a line of weakening 36 is provided between the tear-off portion 35 and the insert portion 24.

As illustrated in Figs. 4 and 5, one part 33 of the insert portion 24 has preprinted information on the "front" surface (see Fig. 5), for example, this may include a "name" block 37 for receiving a name and an addressee block 38 for receiving the name of an addressee. For example, the name block 37 may be used to indicate that a gift is being made in the honor of some person while the addressee block 38 may indicate the donor. The adjacent part 35 of the insert may be blank. As indicated, one part 33 of the insert may be provided with a preprinted message 39 while the adjacent part 34 is provided with other printed information such as a greeting.

When the insert part 24 is separated from the envelope portion 23, the two parts 33, 34 can be folded about the line of weakening 31 so that the greeting appears on the front of the insert while the blank surface appears on the left inside and the name block 37 and addressee block 38 appear on the right inside of the insert. The folded insert may then be stuffed into the envelope portion 23. Of note, the tear-off portion 35 is removed from the insert portion 24 at that time or before that time.

In use, the mailer blank 22 can be fed through an imaging means, such as a laser printer, so that customized information regarding an individual addressee can be placed within an address block 40 on the face of the front part 25 at the same time that the name of the addressee is printed in the addressee block 38. Another name may also be printed into the name block 37 of the insert portion 24. In this way, the mailer can be person-

alized for the recipient in one pass through the imaging means.

As indicated in Fig. 5, a section 41 of the "front" part 33 of the insert portion 24 can be provided with a fanciful design or other aesthetically pleasing preprinted matter. For example, the design may be pre-printed or imaged along one edge of the part 33. Further, as indicated in Fig. 5, the flap part 27 may be preprinted with a return address 42 of the sender.

As illustrated in Figs. 4 and 5, the one piece mailer 22 may be of rectangular construction and sized to be fed through a laser printer. Further, the mailer 22 may be constructed so that the insert portion 24 is of a laminated double ply construction so as to provide a greeting card-like feel and appearance to the insert portion 24 when folded.

Further, the insert portion 24 may be provided with additional fold lines perpendicular or parallel to the main fold line 31 or with additional lines of separation so that different sections of the insert portion 24 can be separated by the recipient and used for various purpose, such as a business card. Still further, the insert portion 24 may be provided with die-cut slots so as to receive a card such as a business card which can then be placed in the envelope portion for mailing. Further, each part of the insert part 24 may be colored with a color distinct from that of the remainder of the mailer.

Referring to Fig. 6, a mailer 43 may be made of a one-piece blank which includes three parts 44, 45, 46 with the middle part 45 provided with a pair of tab portions 47, each of which extends from an opposite side of the middle part 45. Each tab portion 47 is sized so as to be folded via a fold line 48 onto the middle part 45. In addition, each tab portion 47, when folded, has a suitable adhesive (not shown) on a side facing the first part 44 so that the first part 44 can be folded about a transverse fold line 49 into contact with the tab portions 47 to thereby define a pocket between the two parts 44, 45. Alternatively, the first part 44 may be folded into contact with the middle part 45 followed by folding of the tab portions 47 onto and over the first part 44. In this case, the adhesive on each tab portion 47 would be on the opposite side.

The third part 46 of the mailer blank 43 is of similar construction to the letterhead portion 12 and insert portion 24 described above and is separate by a line of weakening 50 from the middle part 45.

Referring to Fig. 7, wherein like reference characters indicate like parts as above, the envelope portion 11 of the mailer 51 may be constructed so that the flap portion 15 extends from the back part 14. In this construction, the insert part 12 extends directly from the front part 13 of the envelope portion 11. In this way, when the mailer 51 is fed through a hot fusing station of a printer, such as a laser printer, the adhesive 17 on the flap is protected, i.e. is not exposed. As indicated, a line of adhesive 52 is disposed on each of at least two opposite edges of the front part 14 to secure the parts 13, 14 together.

Referring to Fig. 8, the mailer blank 61 has an envelope portion 62 and an integral letterhead portion 63 which extends from the envelope portion 62 and which is separated therefrom by a line of perforations 64. The term "letterhead" as used in defining the removable portion 63 is intended to be a general term for a message, invoice, memo and the like and is not intended to be exclusive to an actual letterhead piece of paper.

The envelope portion 62 includes a back part 65 of rectangular shape, a front part 66 of rectangular shape and a flap 67 which extends from the front part 66. As indicated, the flap 67 is provided with notched ends 68 but may also have straight or shaped ends. Still further, a pair of tab portions 69 are integral with and extend from opposite sides of the back part 65. Also, each tab portion 69 has notched ends but may also have straight or shaped ends.

The front part 66 is separated from the back part 65 by a transverse fold line 70 while the flap 67 is separated from the front part 66 by a transverse fold line 71. Each tab portion 69 is separated from the back part 65 by a transverse fold line 72.

Each tab portion 69 is provided with an adhesive (not shown) on the opposite side from that shown in Fig. 8 for purposes as explained below.

The mailer blank 61 is foldable so as to form a mailer form, such as illustrated in Fig. 9. To this end, the two tab portions 69 are folded about the respective fold lines 72 while the front part 66 is folded about the fold line 70 into facing relation to the adhesive on the folded tab portions 69. Should a pressure sensitive adhesive be used, the tab portions 69 and folded parts 65, 66 and simply pressed together so that the front part 66 is adhesively secured to the back part 65 to form a full open pocket. If the adhesive is of a water moistenable type or heat sensitive type, other suitable operations are performed to effect securement. At this time, the flap 67 is brought into facing relation to the letterhead portion 63 as indicated in Fig. 9.

Alternatively, the front part 66 may first be folded over the back part 65 followed by folding over of the tab portions 69.

The flap 67 is provided with an adhesive 73, such as a line of adhesive or block of adhesive, and is of a type as described above. Hence, when in the folded condition shown in Fig. 9, the adhesive 73 is fully disposed between the flap 67 and the letterhead portion 63 in a protected, i.e. unexposed manner.

As shown in Fig. 9, the mailer form which is formed of the folded mailer blank 61 can be readily fed through an imaging means, such as a laser printer for the printing of information on at least one side.

Referring to Figs. 8 and 9, the letterhead portion 63 is of narrower width than the back part 65 and front part 66 of the envelope portion 62 and is formed by die-cutting when the blank 61 is made. For example, where the back and front parts 65, 66 of the envelope portion are of a width of 8 1/2 inches, the width of the letterhead portion 63 has a width less than the width of the envelope portion

62, e.g. 8 1/8 inches. In addition, the letterhead portion 63 and the envelope portion 62 have a side edge each located along a common line. That is to say, the letterhead portion 63 is not centered relative to the envelope portion 62.

The one piece mailer form of Fig. 9 may be modified so that the flap 67 is folded about the fold line 70 so as to be tucked-in between the two parts 64, 65 of the envelope portion in order to further protect against exposure of the adhesive on the flap 67. Alternatively, the front part 66 may be provided with two fold lines (not shown) so that the flap 67 can be tucked-in by being folded about the lower of the fold lines. In this way, the front and back parts 65, 66 may be of the same height with the flap tucked between. Subsequently, after the letterhead portion 63 has been separated and is ready to be stuffed into the envelope, the flap may be folded about the upper fold line so as to close over the back part 65 of the envelope to seal the envelope.

The letterhead portion 63 is of a longer length than the height of the pocket formed by the parts 65, 66 of the envelope portion 62 and is a multiple of the pocket height. By way of example, the envelope portion 62 is provided with a pocket of a height such that the letterhead portion 63 is of a length three times the pocket height so as to be folded in thirds to fit inside the pocket. For example, the back part 65 may have a height of 3 3/4 inches, the front part 66 may have a height of 4 3/8 inches and the flap 67 may have a height of 10/16 inches. The letterhead portion 63 may have a length of 10 5/16 inches. In this embodiment, the letterhead portion 63 may be folded in thirds so as to be of a size which can be readily stuffed into the pocket of the envelope portion 62. Since the letterhead portion 63 is of less width than the envelope portions 62, the folded letterhead portion 63 can be easily slid into the pocket. Thereafter, the adhesive 73 on the flap 67 can be activated, for example, moistened and the flap 67 folded over to seal the envelope.

Referring to Fig. 9, in the above numerical example the integrated mailer form has an overall width of 8 1/2 inches and a length of 14 inches. As such, the integrated mailer form is of a size to be readily fed through an imaging means, such as a laser printer, to have imaged information applied on at least one side of the letterhead portion 63 and, for example, customized addressee information on the face of the front part 66 of the envelope portion 62 during a single pass through the imaging means. A subsequent pass through the imaging means may also apply imaging information on the opposite side if desired.

Another advantage of the mailer form is that by having the letterhead portion 63 extend from the back part 65 of the envelope portion 62, rather than from the flap 67, a larger surface area is provided on the letterhead portion 63 to receive imaged information, thus coming closer to a standard sized letterhead.

Because the mailer form has a continuous edge along one side, i.e. the left side as viewed, guidance

through a laser printer or a like imaging means along the side is not compromised.

After being imaged, the letterhead portion 63 and envelope portion 62 are separated from each other. The letterhead portion 63 is then folded into thirds and inserted into the pocket of the envelope portion 62. Thereafter, the flap 67 is moistened and folded over to seal the envelope portion 62. The thus closed envelope may then be placed in the mail.

One of the advantages of the mailer form is that letterhead portion 62 can be provided with imaged text which includes, in part, the name and address of the intended recipient. The same name and address can be imaged on the face of the front part 66 of the envelope portion 62. This results in a customized letterhead and envelope that can then be separated with the letterhead portion 63 then folded, stuffed and sealed in the envelope portion. All of these steps can be carried out at the same time. Thus, an entire series of letters may be sent to a number of different addresses in a relatively simple operation.

Another advantage of the mailer form is that the adhesive on the flap 67 of the envelope portion 62 is protected during feeding through the laser printer since the adhesive is sandwiched between the flap 67 and the letterhead portion 63. Thus, by being protected, the adhesive may be of a type which might otherwise be damaged by heat generated in a laser printer.

Another advantage of the integrated mailer form of Figs. 8 and 9 is that the letterhead portion 63 provides a substantial surface for receiving text, graphics or the like. For example, the letterhead portion 63 in the above example measures 8 1/8 inches by 10 5/16 inches.

The mailer form may, of course, be made of another size while incorporating the above features. For example, the form may have overall dimensions of 8 1/2 by 11 inches, or may be of A4 size or other suitable size.

The invention thus provides an integrated mailer form which can be preprinted in large quantities with a common message or theme or blank and graphics imaged. Thereafter, each mailer form can be individually personalized by being passed through an imaging means, such as a laser printer, prior to separation of the insert part and stuffing of the separated insert part into the envelope portion for mailing purposes.

The invention provides a composite mailer form having an integrated envelope portion and letterhead or insert portion which can both be imaged in one pass through an imaging means such as a laser printer. This eliminates a need for a separate typewriter or the like to image addressee information on the envelope portion. The invention also eliminates the risk of stuffing the wrong personalized letter into the wrong envelope.

Claims

1. An integrated mailer form comprising an envelope portion (62) having a front part (66) for receiving addressee information thereon, a back part (65) dis-

posed over said front part (66) to define an open pocket therewith, an adhesive securing said parts to each other, a flap part (67) extending from one of said parts (65, 66) for folding over the other of said parts (66, 65) to close said pocket and an adhesive (73) on said flap part (67) for securing said flap part (67) to said other part (66, 65); a letterhead portion (61) extending from said envelope portion (62) and a line of weakening (64) between said portions (61, 62) to permit removal of said letterhead portion (61) from said envelope portion (62) characterized in that said letterhead portion (61) extends from the other of said parts (66, 65) of said envelope portion (62) in facing relation to said adhesive on said flap (67) to receive imaged information on at least one side.

2. An integrated mailer form as set forth in claim 1 further characterized in that said letterhead portion (61) is of rectangular shape and is of a width less than the width of said envelope portion (62) to allow folding and insertion of said letterhead portion (61) into said pocket.
3. A mailer form as set forth in claim 2 characterized in that each of said letterhead portion (61) and said envelope portion (62) have a side edge located along a common line.
4. A mailer form as set forth in any of claims 2 and 3 further characterized in that said envelope portion (62) has a width of 8.5 inches and said letterhead portion (61) has a width of less than 8.5 inches.
5. A mailer form as set forth in any of claims 1 to 4 further characterized in that said letterhead portion (61) is of a length equal to a multiple of the height of said pocket to be folded and inserted into said pocket.
6. A mailer form as set forth in any of claims 1 to 5 further characterized in that one of said parts (65, 66) of said envelope portion (62) has a pair of tab portions (69), each tab portion being disposed along an opposite side of said one part in folded over relation and being secured to the other of said parts (65, 66) to define said pocket.
7. A mailer form as set forth in any of claims 1 to 6 characterized in that said portions are sized to be fed through a laser printer in one pass to receive imaging on each said portion.
8. A mailer form as set forth in any of claims 1 to 7 characterized in that said letterhead portion (61) is sized to be folded in thirds about two fold lines parallel to said flap part (67) for stuffing into said pocket of said envelope portion (62).

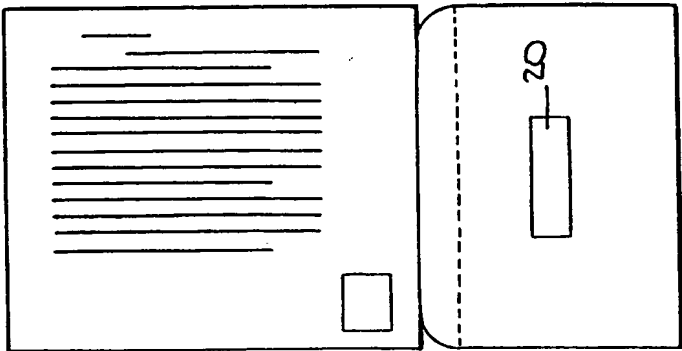


Fig. 3.

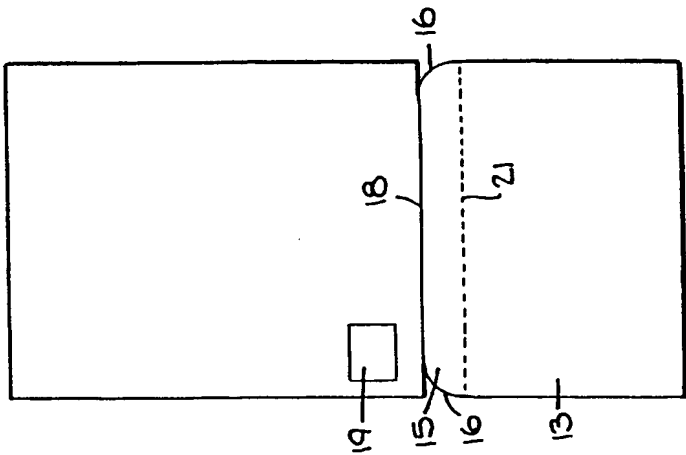


Fig. 2.

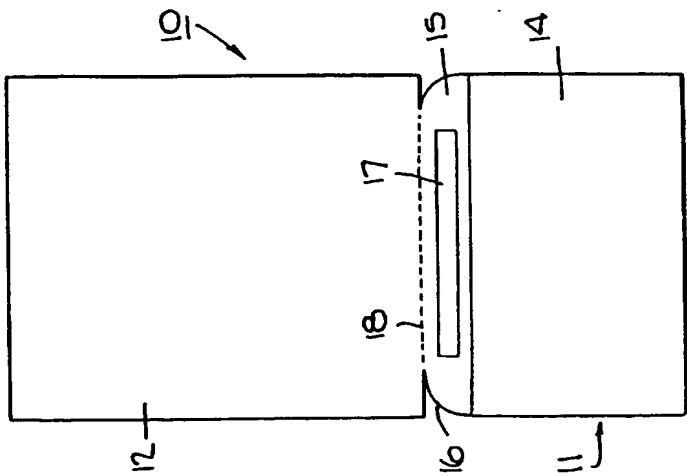
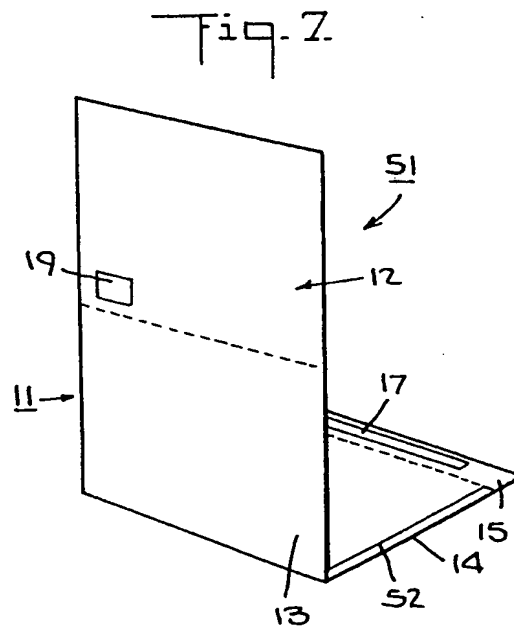
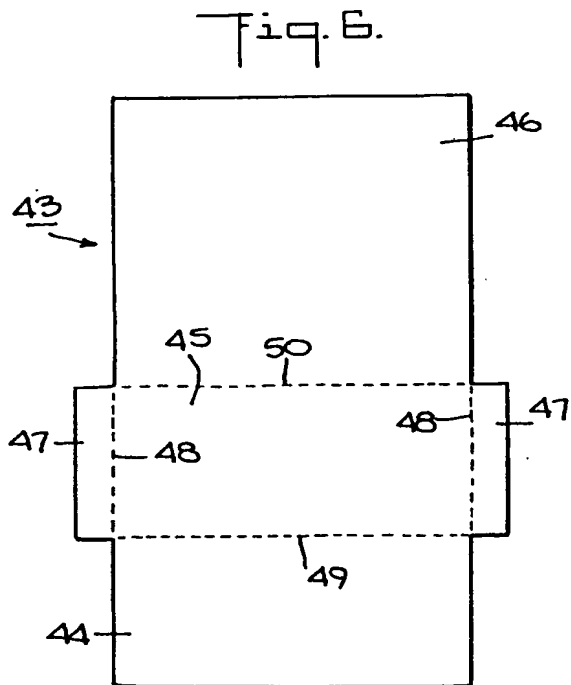
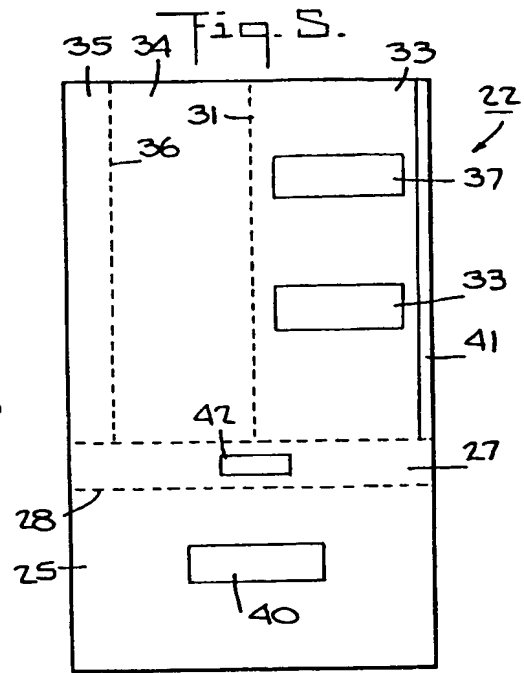
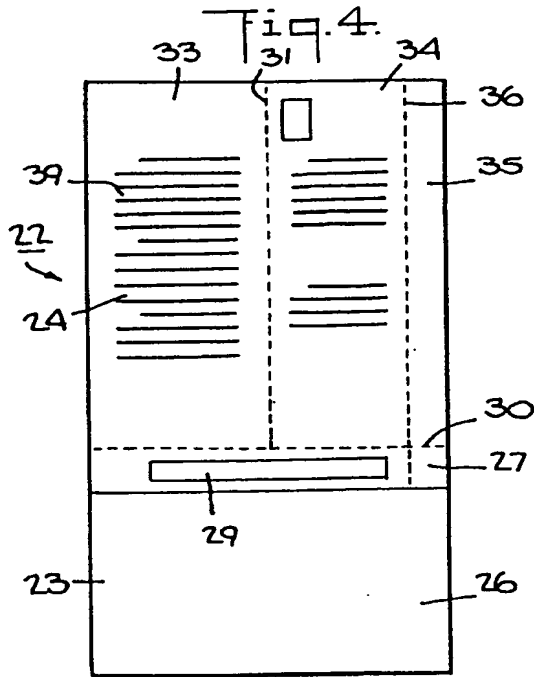


Fig. 1.



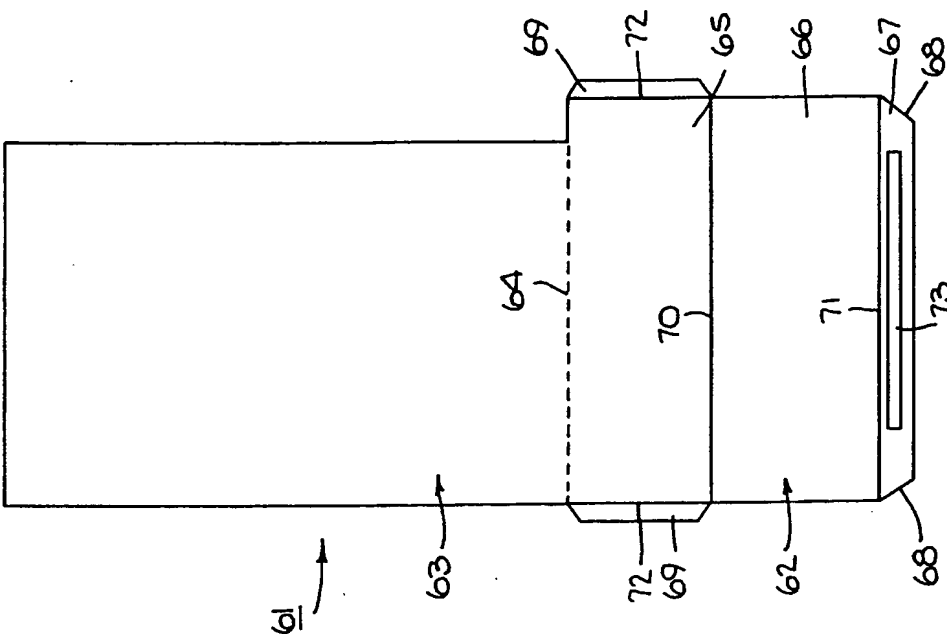


Fig. 8.

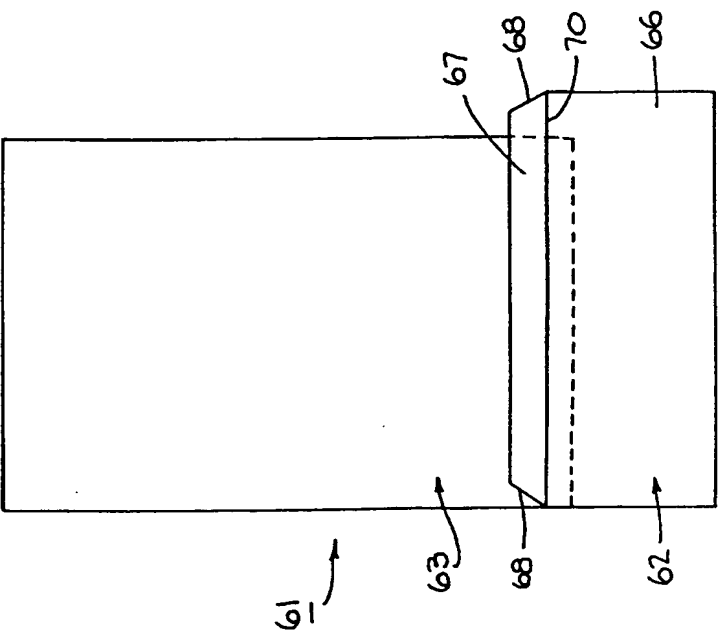


Fig. 9.

EP 0 695 649 A1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 9509

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP-A-0 562 788 (TRANSKRIT CORPORATION) * the whole document *	1	B42D15/00 B42D15/08
A,D	US-A-4 951 864 (DICKER) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B42D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10 November 1995	Examiner Evans, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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